Claims

1. A piezoelectric actuator with

- a multilayered structure of piezoelectric layers (2) and electrodes (3, 4) disposed between them,

- an alternating lateral contacting (5, 6) of the electrodes (3, 4), wherein in the region between two piezoelectric layers, which contains one of the electrodes (3, 4) that are respectively contacted on opposite sides from one another, there is a neutral phase (7) without an electrode layer, and

- a shape of the multilayered structure which permits an increased mechanical stress to be exerted in the vicinity of the neutral phases (7) when the piezoelectric actuator (1) is clamped in place perpendicular to the layer structure.

2. The piezoelectric actuator according to claim 1, characterized in that

- at least one outer cover layer (11) of the multilayered structure on the outer end face is embodied so that it has a thickening (12; 13) in the vicinity of the neutral phases (7).

3. The piezoelectric actuator according to claim 2, characterized in that

- the thickening (12) is disposed on opposite sides of the cover layer (11), in accordance with the placement of the neutral phases (7).

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4. The piezoelectric actuator according to claim 2, characterized in that

- the thickening (13) is disposed at diagonally opposite corners of the cover layer (11), in accordance with the placement of the neutral phases (7).

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5. The piezoelectric actuator according to ~~one of claims 2 to 4~~, characterized in that

- the thickening is produced by grinding the cover layer.

6. The piezoelectric actuator according to claim 1, characterized in that

- an insulating layer (15) is disposed between (some or all?) of the layers of the multilayered structure and has a thickening in the vicinity of the respective neutral phases (7).

7. The piezoelectric actuator according to claim 1, characterized in that

- the electrodes (3, 4) of the multilayered structure each have a thickening in the vicinity of the respective neutral phases (7).

8. The piezoelectric actuator according to ~~one of claims~~ claim 2 to 7, characterized in that

- some or all of the features of these claims are combined with one another.